

REMARKS

Claims 1-13 were pending in this application, claims 5-13 having been withdrawn from consideration as being directed to a non-elected species of invention, and claims 1-4 having been rejected. Claims 5-13 have been canceled and claims 1-4 have been amended. Claim 1 is independent.

The cancellation of claims 5-13 is without prejudice to, or disclaimer of, the subject matter recited therein. Applicant reserves the right to pursue the subject matter of those claims in a related divisional application.

The Examiner and the Examiner's Supervisor, Mr. Luu, are both thanked for the telephonic interview with the undersigned conducted on July 25, 2008. As discussed during that interview, various claims have been revised to clarify that the recited piezoelectric element is used as a sensor, not as a driving element of an ink jet recording head, which the Examiner tentatively indicated would distinguish over the cited art. The changes and patentability arguments presented herein correspond to various points addressed during that telephonic interview, and so this Supplemental Amendment reflects the substance of the interview.

The following comments supplement and incorporate by reference the remarks in the Amendment filed on May 6, 2008.

The changes to the claims involve matters of form, not scope. For example, the term "charge and discharge" has been changed to the synonymous --energize and de-energize--. Those having ordinary skill in the art will understand from the disclosure that these terminology changes merely clarify that the piezoelectric sensor element does not cause the ejection of ink (by way of non-limiting example, the specification, at page 22, first full paragraph, describes

how current is applied from a charge pump circuit to a piezoelectric sensor element PZT, and, beginning at page 22, third full paragraph, describes how the piezoelectric sensor element PZT is discharged, to detect an amount of expendable). No change in scope of the claims is intended.

Cited U.S. Patent Appln. Publn. No. 2002/0012015 to Tsukada et al. merely teaches a piezoelectric sensor for detecting a consumption condition of a liquid in a liquid container. The Office Action has **admitted** that Tsukada fails to suggest a control module as claimed (the control module is configured to vary a property affecting an output signal of the piezoelectric sensor element).

Nor are Tsukada's deficiencies remedied by either of the two other references applied by the Office Action, U.S. patent no. 6,504,701 to Takamura et al., and U.S. patent no. 4,714,935 to Yamamoto et al. As explained during the telephonic interview, Takamura and Yamamoto do not have piezoelectric sensor elements that detect an amount of expendable. Rather, Takamura and Yamamoto employ piezoelectric elements as driving elements to eject ink from ink jet print heads, or to operate liquid crystal members. Neither reference teaches using a piezoelectric member as a sensor, much less having a control module that varies a property affecting an output signal of that piezoelectric sensor, as claimed in this application (as noted above, claims 1-4 have been revised to clarify this distinction).

Accordingly, claims 1-4 patentably distinguish over the cited art. Favorable consideration and withdrawal of all outstanding rejections, and prompt allowance of this application, are respectfully requested.

CONCLUSION

Applicant respectfully submits that all outstanding rejections have been addressed and are now overcome. Applicant further submits that all claims pending in this application are patentable over the prior art. Favorable reconsideration and withdrawal of those rejections and prompt allowance of this application are respectfully requested.

No fees are presently believed to be due in connection with the filing of this paper. If, however, any fees are deemed to be now or hereafter due in connection with this application, the Commissioner is authorized to charge all such fees to Deposit Account No. 19-4709.

In the event that there are any questions, or should additional information be required, please contact applicant's attorney at the number listed below.

Respectfully submitted,

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